



The Brain and Oxidative Stress

Our brain is arguably the most complex organ in our body controlling not only our thought processes but coordinating muscle movement and subconscious activities such as breathing and digestion as well. Our brain contains millions of mitochondria which are vulnerable to attack from free radicals. Oxidative stress caused by out of control free radicals is now recognised as a major contributor to ageing and is thought to be the primary cause of all neurodegenerative disorders. MitoQ is a revolutionary supplement which gets CoQ right inside mitochondria. Its powerful antioxidant activity neutralises free radicals and decreases oxidative stress and supports brain health, when taken in conjunction with a healthy diet and exercise.

Our brain is an amazing, extremely complex, organ. Not only does it control our thoughts, it is also responsible for coordinating muscle movement and subconscious activities, such as breathing and digestion. Our brain is central to our survival and being as a person. Which means that damage or injury to our brain not only has a local effect but a far reaching effect on other bodily functions as well.

The brain consists of four main areas, called lobes. These are the frontal, parietal, temporal and occipital lobes. Each is related to a different brain function and together with the cerebellum, brain stem

and spinal cord form our central nervous system (CNS). Our CNS is protected from our circulatory system (heart, blood, lymph system) by a unique interface, called the blood brain barrier. This barrier restricts the passage of large or water soluble molecules and foreign invaders such as bacteria while allowing the movement of small or fat soluble molecules such as oxygen, carbon dioxide and hormones. Certain other metabolic products such as glucose get actively transported across the barrier with the aid of special proteins.

Because the brain is one of the body's greatest consumers of energy and oxygen, it contains millions of mitochondria. Mitochondria are small organelles located inside every brain cell that convert glucose and fats from the food we eat into energy for the cell. Mitochondria are very vulnerable to attack from free radicals. Free radicals are waste products formed during cellular reactions that inflict damage on other components of the cell, including mitochondria, if not kept in check by antioxidants such as coenzyme Q10 (COQ10). This leads to oxidative stress. Because mitochondria contain their own DNA they are able to replicate themselves in response to increased energy demands of the cell. The bad side to this is that if they become defective, they replicate their own damaged DNA into other mitochondria, eventually displacing all well-performing mitochondria. The oxidative decay of mitochondria in brain cells is now recognised as a major contributor to ageing.

Even older people who appear healthy still have a degree of mitochondrial dysfunction, albeit not at a level high enough to be apparent. But this leaves them with precious little reserve. It may only take a minor illness or minimal trauma to tip the balance and suddenly the decline is noticeable. Movement and cognitive

functions (mental processes that involve thinking, understanding, learning, and remembering) are usually the first to go.

Scientists believe that if we can prevent mitochondrial decay, by decreasing oxidative stress associated with out-of-control free radicals, we can support healthy brain function and help slow down the aging process itself.

MitoQ is a revolutionary form of COQ10. MitoQ has been formulated to rapidly cross the blood brain barrier and gets COQ deep inside mitochondria, right at the major site of free radical production. Here it can neutralise free radicals and decrease oxidative stress.

Making good, sustainable life style changes, such as eating a healthy diet, doing plenty of exercise, and taking a mitochondrial-targeted antioxidant such as MitoQ , all help reduce oxidative stress.

So if you want to live a long and happy life, with good mental reserve and the ability to move under your own steam, be nice to your brain and take some MitoQ today.

Always read the label and use as directed. If symptoms persist see your healthcare professional

To learn more about MitoQ visit [MitoQ University](#).

Bibliography

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